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Abstract

In the context of psychosocial oncology research, disseminating study findings to a range of knowledge “end-users” can advance the well-being of diverse patient subgroups and their families. This article details how findings drawn from a study of prostate cancer support groups were repackaged in a knowledge translation website—www.prostatecancerhelpyourself.ubc.ca—using Web 2.0 features. Detailed are five lessons learned from developing the website: the importance of pitching a winning but feasible idea, keeping a focus on interactivity and minimizing text, negotiating with the supplier, building in formal pretests or a pilot test with end-users, and completing formative evaluations based on data collected through Google™ and YouTube™ Analytics. The details are shared to guide the e-knowledge translation efforts of other psychosocial oncology researchers and clinicians.

Keywords

prostate cancer, cancer support groups, knowledge translation, health care website

Introduction

Challenges abound for making psychosocial oncology research findings accessible to a diverse range of knowledge end-users. While consensus prevails that knowledge, perhaps especially that made possible by donor and tax payer funding, should be freely available, there are many factors to thoughtfully consider about how to best package and disseminate study findings. For example, notwithstanding the fact that many academic journals are restricted to paid subscribers, editorial demands for formal language and styles in these publications may not appeal to all potential knowledge end-users. In the specific context of research examining prostate cancer support groups (PCSGs), making study findings available to a range of audiences, including health care providers and potential support group attendees can also increase impact by promoting awareness of, and attendance at, PCSGs. Yet to achieve the somewhat lofty goal of engaging diverse knowledge end-users, considerations about content, style, and mechanisms for dissemination are key, as are the evaluations of those knowledge translation (KT) efforts. In this case study article, lessons learned from developing and evaluating *The Prostate Cancer Help Yourself* website (www.prostatecancerhelpyourself.ubc.ca) are made available to guide the KT efforts of other psychosocial oncology researchers and clinicians.

Prostate Cancer Support Groups (PCSGs)

In Canada, and many other Western countries, prostate cancer is the most common male cancer (Canadian Cancer Society, 2013; National Cancer Institute, 2013). Affecting 1 in 7 men, older age is the strongest predictor of prostate cancer development, and worldwide increases in male life expectancy will also likely increase the numbers of men diagnosed (Sun et al., 2009). In addition, men are living longer with prostate cancer, and the death rate continues to be significantly lower than the incidence rate (Canadian Cancer Society, 2013; National Cancer Institute, 2013). In the absence of a known modifiable cause, the number of men diagnosed with prostate cancer will increase with the aging population, and for many men it will become a chronic, long-term illness (Canadian Cancer Society, 2011, 2013; Jemal et al., 2009). Diverse

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health issues can accompany prostate cancer and its treatments - many of which influence gender roles, identities, and relations (Ervik & Asplund, 2012; Gannon, Guerro-Blanco, Patel, & Abel, 2010; Oliffe, 2006; Wall, Kristjanson, Fisher, Boldy, & Kendall, 2012; Zaider, Manne, Nelson, Mulhall, & Kissane, 2012). Often altered are breadwinner, husband/partner, and father roles, along with restrictions to work and recreational activities (Grunfeld, Drudge-Coates, Rixon, Eaton, & Cooper, 2013). Prostate cancer treatments can also diminish potency and urinary continence, which affect men's sexuality and intimate relationships (Badr & Taylor, 2009; Bottorff et al., 2008; Broom, 2010; Gannon et al., 2010; Manne, Badr, Zaider, Nelson, & Kissane, 2010; Song et al., 2012; Zaider et al., 2012). Psychosocial supports and health and illness information are integral to the well-being of men who have prostate cancer, and as a result PCSGs have emerged as important community-based resources in Canada and other Western countries (Arrington, 2010; Oliffe, Ogrodnick, Bottorff, Hislop, & Halpin, 2009; Trapp, Woods, Grove, & Stern, 2013; Voerman et al., 2007; Zanchetta, Perreault, Kaszap, & Viens, 2007; Zhang, Galanek, Strauss, & Siminoff, 2008).

The vast majority of PCSG research has focused on the benefits and barriers to attending group meetings and primarily aimed at academic audiences. Previous work detailing *benefits* includes an interview study suggesting men gained self-help strategies from peers and prostate cancer experts through attending PCSGs (Zhang et al., 2008). Similarly, a survey of men who attended a professionally led PCSG identified how the sharing of prostate cancer experiences gave men reassurance, helped alleviate anxiety, and provided a positive outlook and perception of being involved in their treatment (Gregoire, Kalogeropoulos, & Corcos, 1997). The benefits described in these studies are confirmed elsewhere, and PCSGs have been reported as effectual in mitigating the psychosocial aspects of cancer by conveying information, empowering men with prostate cancer, enhancing and facilitating psychosocial adjustment, and helping men and their partners cope with life after a diagnosis and treatment of cancer (Arrington, 2010; Boonzaier et al., 2009; Sharpley, Bitsika, & Christie, 2009; Weber, Roberts, & McDougall, 2000). A PCSG review article by Thaxton, Emshoff, and Guessous (2005) concluded that men who attended PCSGs most valued information and education (e.g., related to treatment, side effects, latest research) as well as advocacy activities.

In terms of *barriers* to attending PCSGs, an interview study with 34 men and their partners led Gray, Fitch, Phillips, Labrecque, and Fergus (2000) to suggest PCSGs were poorly attended because men typically avoid disclosure due to low perceived need for support, fear of stigmatization, the need to minimize the threat of illness to

aid coping, practical necessities in the work place, and the desire to avoid burdening others. Similarly, men's misperceptions that PCSG meetings were geared toward emotional support of the terminally ill (Krizek, Roberts, Ragan, Ferrara, & Lord, 1999) and a sense of shame and embarrassment about sharing personal information (Grunfeld et al., 2013; Smith, Crane, Byers, & Nelson-Marten, 2002; Weber et al., 2000) were identified as barriers to attending support groups. While men's misperceptions about PCSGs, along with individual preferences for privacy, pose barriers to attendance, there is evidence that health care providers strongly influence men's interest in attending a "support" group. Steginga, Pinnock, Gardner, Gardiner, and Dunn's (2005) survey questionnaire study of 1,224 attendees at Australian-based PCSGs confirmed that the clinician's level of endorsement for men's participation in PCSGs strongly influenced men's uptake of group support. Health care providers' lack of awareness of PCSGs can also be a significant barrier (Smith et al., 2002) and this was confirmed in subsequent study of 36 clinicians (27 urologists and 9 radiation oncologists) by Steginga et al. (2007) who found that participants were reluctant to refer patients to PCSGs, fearing that biased viewpoints and misinformation within the groups might contribute to men's uncertainty and decisional regret.

Building on this evidence, our research foci explored the role of PCSGs in men's health promotion by conducting fieldwork *at the meetings* of 16 face-to-face British Columbian based PCSGs and individual interviews with attendees (54 men and 20 women partners). Based on these data the key findings related to (a) PCSG strategies for health promotion (Oliffe et al., 2008; Oliffe et al., 2011; Oliffe, Gerbrandt, Bottorff, & Hislop, 2010), (b) the roles and functions of women partners and gender relations among couples attending PCSGs (Bottorff et al., 2008), and (c) group sustainability issues (Oliffe et al., 2009). Through this research detailed was how, in the context of PCSGs, men's health promotion could be achieved in masculine ways. For example, the PCSG meetings were business like in their structure with itemized agendas that followed familiar schedules and strict timelines, and the language used and information shared most often reflected biomedical evidence-based concepts. Strength-based men's health promotion approaches used in these groups worked to advance the well-being of men and their families. Findings included how PCSGs fostered men's talk about ordinarily private health and illness matters by mixing health and prostate cancer information, tailoring prostate cancer trajectory and problem-specific information, and offering "living examples" of healthy men who experienced prostate cancer (Oliffe et al., 2009). This research also enabled us to detail how health literacy, a critical consideration for

effectively mobilizing health promotion efforts (Nutbeam, 2008), was advanced at PCSGs. Interest in shared decision making and health consumerism prompted many men to research their prostate cancer, and seek counsel from group attendees who had experienced similar situations (Oliffe et al., 2008). In addition, the findings described how humor could promote men's comfort and talk about health and illness while marking the boundaries for the level of detail and disclosure shared within the groups (Oliffe et al., 2009). Our interviews with women partners who attended PCSGs provided additional insights including how they bolster PCSG operation and derive much needed support from other women at the groups (Bottorff et al., 2008).

Despite the perceived benefits of attendance at PCSG for both men and their female partners, some groups were struggling to attract and retain members, maintain cohesive leadership, and provide up-to-date information (Oliffe et al., 2008). PCSG sustainability was strongly reliant on being a known resource in the community and to potential end-users; and the endorsement of health care providers and community partners was the key to encouraging new attendees. Having guest presenters with recognized expertise on a range of prostate cancer specific or general men's health issues was also pivotal to attracting men and their partners to the group meetings as well as retaining long-term attendees. In addition, previously described barriers to attending PCSGs continued to influence participation and included both mechanistic (e.g., lack of transport, remote location, disability) and philosophical (e.g., loss of anonymity, fear of a focus on cathartic sharing) barriers.

Since PCSGs rely on patient attendance and to some extent HCP advocacy for PCSGs, a very important missing ingredient to sustain PCSGs is the sharing of research about the potential benefits of PCSGs with patients and health care providers, and important insights into effective approaches for engaging men in health promotion. Our research (Bottorff et al., 2008; Oliffe et al., 2008; Oliffe et al., 2009; Oliffe et al., 2010; Oliffe et al., 2011) was important in this respect because it was based on qualitative interviews with these target groups detailing their experiences of PCSGs. This research provided broadly positive but authentic accounts in which the ambiguities held by men affected by prostate cancer, their partners, and health care providers about this form of self-help group were retained. The research offered a window on the process of informed deliberation by users of the pros and cons of attending PCSGs as a self-help and mutual support strategy. Given that the incidence of prostate cancer is expected to rise with the aging population and the ever present pressures on health care systems, there is great potential for men who experience prostate cancer and their families to draw benefit from

knowing about the services that PCSGs provide. While acknowledging that PCSGs do not appeal to all men or women, it is likely that some potential attendees are negatively influenced by a lack of information or misinformation about the services support groups offer. This KT project and chronicling our experiences here was inspired by our ambition toward: (a) reducing the burden on psychosocial oncology services by raising awareness of the services provided by PCSGs, (b) increasing life quality among *some* men who experience prostate cancer and their families, (c) hosting an important conversation about the challenges for sustaining these community based prostate cancer services, and (d) highlighting much needed empirical insights to an effective, strength-based approach to men's psychosocial oncology health promotion. The gendered significance of internet technologies also cemented the case for the use of Web 2.0 technologies for KT. While acknowledging that men are a diverse patient group, a growing body of evidence suggests that men are especially attracted to the internet as a space to explore health and well-being advice (Robinson & Robertson, 2010; Robertson & Williams, 2010). Thus, Web 2.0 technologies offered a promising means for us to bridge the gap between the virtual support offered by the internet and the face to face support offered through PCSGs.

e-Knowledge Translation (e-KT)

While academic KT activities typically include peer-reviewed publications and conference presentations, these avenues mainly constitute diffusion (*let it happen*) and dissemination (*help it happen*) strategies (Graham, 2010). In essence, e-KT, and Web 2.0 applications more specifically, can garner KT application (*make it happen*) efforts whereby strategically repackaged study findings can be targeted to harness uptake and facilitate conversations between the knowledge producers and a range of targeted end-users. Drawing on social marketing principles, information technologies have also been touted as an effective means for reaching men with health messages (Robinson & Robertson, 2010). For example, many men use the internet as a first call for health information (Pollard, 2007), a trend attributed in large part to the private nature of electronic mediums (Robertson & Williams, 2010). In addition, rapidly changing aspects of "best practice" and strong interest in shared decision making, patient choice, and health consumerism have seen patients' and HCP's use the web for health information (Broom, 2005a, 2005c; Changrani & Gany, 2005; Hoybye et al., 2009; Tustin, 2010). In the context of PCSGs, the interactive nature of Web 2.0 features, aside from affording unique opportunities to message "hard to reach" men who experience prostate cancer, can also engage health

care providers and potential attendees to signal the availability of these community-based resources.

Intrigued by the potential of Web 2.0 features and a term we coined—*e-KT*—we set about developing an interactive website, and in what follows five lessons learned are detailed, along with findings drawn from a formative evaluation based on data collected from Google™ and YouTube™ Analytics. By chronicling our experiences, the primary aim is to guide the *e-KT* efforts of other psychosocial oncology researchers and clinicians.

Website Development: Five Lessons Learned

Pitching a Winning but Feasible Idea. The research funding announcement to which we successfully applied was focused on end-of-grant *KT* activities whereby “new” research monies (up to \$100,000 over 1 year) were made available to further highlight findings drawn from an earlier study (Canadian Institutes of Health Research [CIHR]; Knowledge Translation Supplement Grant [Spring 2011 Competition]). Our academic peer-reviewed journal articles from the original study (Bottorff et al., 2008; Oliffe et al., 2008; Oliffe et al., 2009; Oliffe et al., 2010; Oliffe et al., 2011) attracted positive but modest levels of interest from academics and health care providers. Influenced by research on effective *KT* strategies (Di Noia, Schwinn, Dastur, & Schinke, 2003; Dobbins et al., 2009; Grimshaw, Eccles, Lavis, Hill, & Squires, 2012), the decision was made early on that the research findings needed to be retold with viewers in mind, and be presented by the types of people we were attempting to reach, patients/carers and health care providers. In deciding to repackage these findings to increase the impact, the research team was convinced that an interactive website could help. Without any background in web design, the team dutifully trawled the relevant literature and visited an array of “contemporary” websites to scope a plan for what to include—as well as what was affordable based on the available budget. The key lesson for us was the importance of fully itemizing our website specifications as a means to making informed decisions about what could be reasonably promised, and ultimately delivered to the funding agency. Akin to the nonmechanically minded taking their car to the auto-shop, in web-design, deciphering wide ranging advice about exactly what can be included, and at what price are key concerns. While the feasibility of delivering all the “good” Web 2.0 ideas one might have is heavily reliant on supplier expertise—the written quotes and budget have to be itemized upfront. It is also important to recognize that the work of developing the web content resides with the research team. In this regard, research staff labor costs are an important budget line which also must be factored in.

Keeping it Consistently Web 2.0. Web 2.0 online health information can be a powerful source of knowledge and psychological support (Berry et al., 2006; McGee & Begg, 2008; Stiffler, Stoten, & Cullen, 2011) and facilitate human interactivity on the web by supporting group interactions and fostering a greater sense of community (Boulos & Wheeler, 2007; Eysenback, 2008; Ullrich et al., 2008). Based on that evidence, the website was purposefully designed to be interactive as a means to allowing visitors to do more than just read or retrieve text-based information. To this end, podcasts, streaming videos, e-postcards, and a forum—all Web 2.0 features—were developed. *Podcasts* were chosen because they were a cheap, effective, and convenient way to make available authors’ narratives briefly detailing specific empirical-, methodological-, and/or theory-based insights derived from each of the published articles (Adam, 2008; Lee & Chan, 2008; PEW Internet & American Life Project, 2009). *Streaming videos* have great impact potential (Boulos & Wheeler, 2007), and a series of short videos (no more than 4 minutes in duration) were used to capture a range of perspectives from people about the findings drawn from our study. Video participants included PCSG attendees, a psychosocial oncology researcher, and a range of health care providers including a sexual health clinician, clinical counselor, dietician, urologist, and radiation oncologist. A total of 27 videos (2 from each of the 10 participants and 7 composites) were professionally produced to present aspects of our study findings as they were reflected in each of the participants’ experiences with prostate cancer and PCSGs. *e-postcards* were also designed to enable site visitors to send messages via a web-based facility to further disseminate our study findings to the public, health care providers, researchers, and potential group attendees (Thackeray, Neiger, Hanson, & McKenzie, 2008). *Forums*, set up with particular Prostate cancer issues in mind (Adam, 2008), were also used to facilitate discussions about our study findings (PEW Internet & American Life Project, 2009).

In terms of lessons learned, in addition to the aforementioned Web 2.0 strategies, the site included downloadable one-page PDF plain language resources, which summarized specific article findings. These text heavy resources drew little interest, and in many ways their inclusion, aside from duplicating web-page content, ran counter to the goal of using interactive Web 2.0 strategies. Furthermore, attracting contributors to the forum was especially challenging. Despite posting topics with short video clips of participants speaking to specific PCSGs-related issues, there were few subscribers or posts to the forums. In this regard, a formal, though brief, forum sign-up (age, sex, username, and password) seemed to dissuade people from posting. Moreover, in attempting to convince visitors that the forum was active and

worthwhile, our use of free forum hosting (i.e., PHP Bulletin Board [phpBB]) unfortunately attracted many automated spammers, and at one point, more than a 1,000 spam threads had been created, many advertising their prostate cancer-related pharmaceutical products. Despite changing the registration settings and moderating the new user sign-ups, the forums have failed to build momentum, and it is likely that the spam early on contributed significantly to this poor outcome. To avoid this, a paid forum service is recommended, which provides advanced protection features that are able to block spammers and to regularly monitor the forum activity.

Negotiating the Supplier. Having decided on a web designer, the planning meetings with the supplier were critically important for discussing issues including site mapping, wire framing (i.e., a technical aspect to set the design, content, and programming parameters), a content management system, general design concept, and website inclusions (videos, podcast etc.). In particular, ensuring research staff could write in the content management system (e.g., wordpress™) was important, because it enabled them to directly update and edit the existing website content or add new content. Also discussed were the supplier responsibilities for website programming, links, forms, and ensuring compatibility with internet platforms including Internet Explorer™, Google Chrome™, Firefox™, and Safari™. These planning meetings were crucial to asking questions, seeking clarification, and agreeing on timelines and deliverables for both parties.

In terms of costs, the team chose a supplier who bundled the videos and web design for a total cost of approximately CAD\$20,000. This included \$10,000 for video capture and editing, and \$10,000 for the website. Given the overall budget for the project was \$80,000, these costs seemed reasonable, whereby 25% of the total budget was allocated to the e-KT products and delivery platform. That said, it is important to note that significant research staff labor costs (approximately \$15,000) were used to view the video interviews and timestamp the excerpts for editing and hosting on the website, and in this regard, the supplier's \$10,000 video charge, in large part, paid for 3 days of head-and-shoulder 16:9 aspect ratio filming at one rent-free location. While the videos employed an off-camera interview style using a black screen backdrop, and the HD quality was excellent, cost savings could have been possible through negotiating a video capturing budget only and editing the videos entirely in house. In fact, in a subsequent but similar project (www.mensdepressionhelpyourself.ubc.ca) Adobe Premiere Elements 11.0™ was used to edit and render more than 70 video clips at a fraction of the cost. Aside from having a stock of "new" content to freshen up the site content, editing the videos ourselves also gave us complete control and

autonomy to produce an unlimited number of videos without incurring additional supplier costs.

Aside from the deliverables that were specified in the contract with the supplier, it was clear that the company logged their employees' collective hours for our project, and there was a limit on those resources. This is completely reasonable from a business viewpoint, but in terms of lessons learned, as the purchaser, it was important to recognize that the suppliers' assistance was finite, and key to maximizing their input was timely content development and feedback on what they had done amid jointly revisiting the contracted deliverables where necessary.

Pretests. The benefits of pretesting websites are well-documented (Becker, 2011; Hinchliffe & Mummery, 2008; Vrazalic, 2003). Unfortunately, the 1-year timeline and the budget for our project did not allow a formal pretest period. Instead, video and podcast participants as well as key stakeholders and e-health experts (total $n = 23$) were invited to provide feedback about the website usability.¹ This informal approach to soliciting general feedback yielded an array of comments most of which positively endorsed the clean, professional contemporary feel and colors of the website. Participant feedback also suggested the website was easy to navigate. Feedback about the videos, podcasts, and forum were generally positive. The forum received several positive comments regarding its look and layout, particularly the fact that the discussion boards were visible to non-members, but only registered members could post. In terms of recommendations for adjustments, some reviewers commented that the target audience(s) of the website was poorly defined. For example, the "Our Study" tab implied researchers were the primary target audience, and overall the language and layout suggested the website was geared to those with moderate to high health literacy levels. Based on this feedback, the team revised content to use more lay language, including welcome messages on the home page to clarify and cluster resources for four audiences—support group attendees, potential group attendees, partners and prostate cancer health care providers, and researchers. Based on feedback the caption font sizes were also increased on the composite videos to assist visitors to more efficiently view specific content.

In terms of lessons learned, this project helped us recognize that e-KT websites should be formally pretested by members from each of the target end-user groups and adequate time allotted to make modifications based on pretest findings. In addition, the informal feedback received was gathered just prior to the preset launch date of the website—a detail already signed off on with the supplier. In this regard, the changes that could be made were also time limited, and even if budget for formal

pretesting had been available, the launch date would have had to have been delayed to formally analyze and act on the more comprehensive feedback solicited.

Completing Formative Evaluations. Google™ Analytics is a powerful free base-utility, offering a range of data about website traffic and performance. It is important to note that advanced settings can be used to custom data collection beyond the generic data that is typically made available. Insights about the website performance include the number of visitors, location of visitors, and duration of visits. The team thoughtfully considered ahead of the launch what specific questions might be asked about the website performance. For example, what was the relative popularity of particular Web 2.0 features (e.g., streaming videos, podcasts) as well as specific content (e.g., comparing the total views of each of the 27 videos). To achieve this, the research team opened a YouTube™ channel to house the website videos, and data was also collected through this site. Specifically, the YouTube™ Analytics provided useful metrics and reports about the videos (e.g., number of views per video, traffic sources, and demographics, audience behaviors) both with regard to our website traffic and our YouTube channel visitors (<http://www.youtube.com/user/MensHealthResearch>) as well as other sites where our videos were embedded.

In terms of lessons learned, while consulting the supplier early on about customizing the Google™ Analytics, it is important to independently research and/or consult specialists about how to efficiently set and adjust Google™ Analytics and YouTube™ data collection. In this regard, there are a number of helpful text guides (Clifton, 2012), websites,² and blogs³ to guide customizing the data collected. Also, these data tend to be used to assess market effect—but for researchers specific queries and questions can be asked as a means to reporting particular trends. In the following section—Formative Website Evaluation—the findings drawn from the aforementioned generic YouTube™ and Google™ Analytics are summarized.

Formative Website Evaluation

Google™ Analytics was used to track visitors' general usage patterns and YouTube™ Analytics was used to collect data about the video components of the website. This formative evaluation reports the data collected in the first 11 months post-release, October 22 through September 21, 2013, inclusive. General data regarding visitors, traffic sources, and content (e.g., number of visits, average time on website) were collected, and date ranges enabled monthly comparisons to be made to distil usage patterns and trends. Google™ and YouTube™ Analytics were also able to answer other more specific questions

including (a) How many new and returning visitors are there, and from what geographic locales do website visits originate? (b) How do visitors find us and what browsers and devices do they use? (c) What pages and media are visitors most and least attracted to?

Visitor's Locale and Pathways. In the first 11 months, there were 2,286 visits resulting in 5,318 page views (Mean = 2.33 pages/visit). Of these, 1,524 visits (66.7%) were new visits, and the average duration for all the visits was 2:51 minutes with a bounce rate (visitors leaving the website directly from the home page) of 56.2%. Direct traffic (i.e., visitors knowing and typing in the website address) led to 1,208 (52.8%) visits, referring websites were the pathway for 584 (25.6%) visits, and inputting keyword searches into search engines accounted for 488 (21.4%) visits. These trends demonstrate the importance of cross-media promotion through word-of-mouth and referring websites and also suggest that search engine marketing is critical to attracting visitors (Crutzen et al., 2009). Moreover, the duration of direct traffic visits was slightly higher than overall (2.51 vs. 2.33 pages/visit; average duration: 3:06 vs. 2:51 minutes). The top referring website was Facebook, followed by two men's health websites, including the lead investigator's homepage (www.menshealthresearch.ubc.ca). Furthermore, there were differences in terms of visitors' pathways by geographical locale (Appendix Table A.1); 1,776 (77.7%) of the visitors to the website were from Canada and Canadian visitors stayed on the site for an average of 3:01 minutes with a bounce rate of 56.19%. The remaining 510 (22.3%) visits were from 43 countries including the United States ($n = 217$), Australia ($n = 126$), and the United Kingdom ($n = 68$). These non-Canadian visitors stayed on the site for an average of 2:51 minutes with a bounce rate of 56.17%. Visits originating from non-English countries (e.g., Germany, India, Israel, Brazil) had higher bounce rates, indicating that these visitors did not advance beyond the home page.

Page and Media Specific Visits. Of the 762 returning visitors, 238 visited twice, 244 visited three to eight times, and 280 visited nine or more times. The depth of visit as indicated by the page views revealed, on average, each visit led to 2.33 page views. Both new and returning visitors viewed two or more pages (2.18 and 2.61 pages respectively) but compared with new visitors, returning visitors tended to stay longer on the website (2:12 vs. 4:09 minutes, respectively). Figure 1 indicated, however, only 416 visits (18.2%) stayed on the site for 3 minutes or more—having a significant impact on the average. In terms of visitor loyalty, a total of 762 (33.3%) returning visitors suggest that the site content is engaging enough to attract a following.

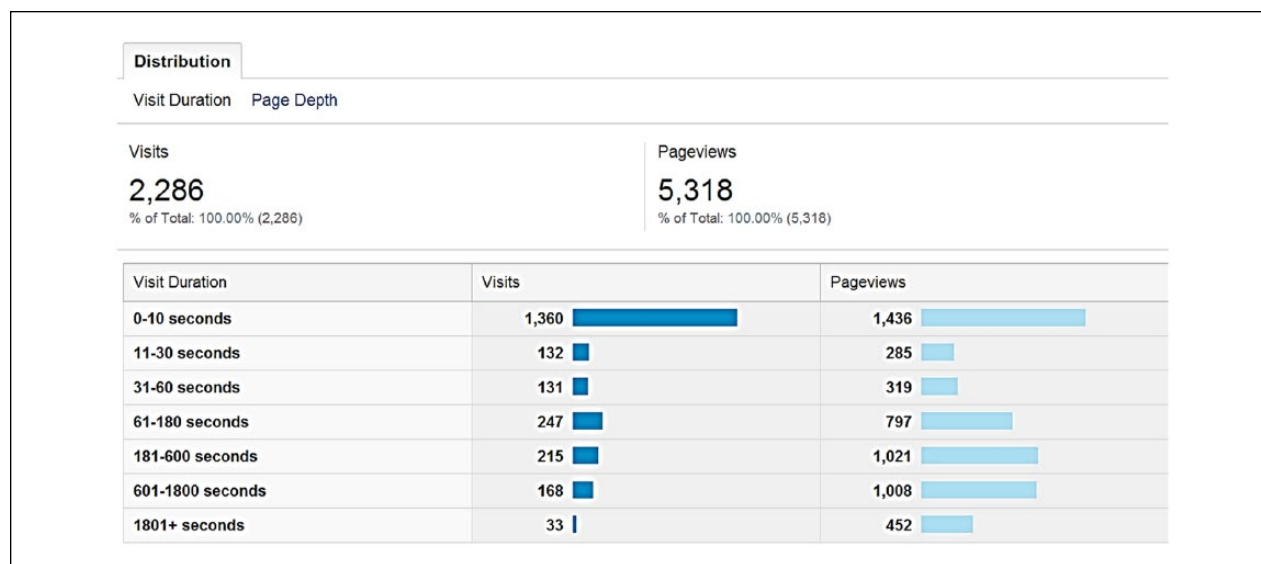


Figure 1. Frequency and recency.

According to Google™ Analytics, the video page, which includes patient videos as well as researchers talking about the study findings and health care providers' perspectives, was visited 416 times and visitors stayed for an average of 3:56 minutes. Additional details retrieved from YouTube™ Analytics indicated that the 38 videos were viewed 1,036 times in total, and 77.7% ($n = 805$) of the audience who was logged into their YouTube account at the time of viewing was male. It is important to note that only 15.2% ($N = 157$) of the 1,036 video views took place on the *Prostate Cancer: Help Yourself* website, whereas the majority (71.5%; $n = 740$) of the views were made on our YouTube site/channel (see Appendix Table A.2). Mobile devices accounted for 13.3% of the total views.

Discussion and Conclusion

Something which has been known for some time is that access to research findings, health information, and raising awareness of community-based prostate cancer services including PCSGs can empower a diverse range of knowledge end-users (Changrani & Gany, 2005; Fogel, 2003; Rozmovits & Ziebland, 2003; Tustin, 2010). Rapidly changing aspects of "best practice" amid strong interest in shared decision making, patient choice, and health consumerism has seen many men use the web for health information (Broom, 2005a, 2005c). Moreover, some studies examining patient-provider relationships conclude that accessing online health information can bolster patient-provider relations (Broom, 2005b; Handel, 2010; Stevenson, Kerr, Murray, & Nazareth, 2007; Wald, Dube, & Anthony, 2007). What is relatively

new, however, is the general movement toward academic health researchers becoming involved in directly communicating their research findings to the broader public and/or targeted patient and health care provider subgroups.

Undoubtedly, there have been pioneers in the academic community, for example the Oxford University initiative, <http://www.healthtalkonline>. However, this article is timely because it comes at a time when KT has become a prevailing mantra and key consideration in assessing the usefulness of academic health research, a trend extolling all researchers to be creative in disseminating their findings more broadly in society, as distinct from forging peer affirmation within academic knowledge communities (Curran, Grimshaw, Hayden, & Campbell, 2011). Advancing psychosocial oncology research through e-KT strategies is in this respect exciting, but it is also a complex enterprise. This article is an attempt to provide researchers within cancer oncology and beyond practical and useful insights about how research findings can be translated online (i.e., e-KT) for patients, families, and health care providers. Our key lessons are summarized in Table 1.

Effective KT derived from academic research is increasingly contingent on making knowledge available and engaging as well as being of benefit to nonacademic communities (Graham, Tetroe, & the KT Theories Research Group, 2007; Grol & Grimshaw, 2003). Similarly, our catalyst was a belief that there is a strong rationale for highlighting the empirical understandings of PCSGs through e-KT strategies to a range of end-users. As highlighted earlier, our research added to the psychosocial oncology literature by presenting findings

Table 1. Psycho-Oncology e-KT Website Development—Five Lessons Learned.

1. Pitching a winning but feasible idea
• Budget for researcher time to develop and edit content.
• Obtain at least three itemized quotes from website development companies prior to deciding on project deliverables.
2. Keeping it consistently Web 2.0
• Focus on interactivity.
• Minimize text and avoid repetition.
• Test to ensure protection from spam on forum.
3. Negotiating the supplier
• Build in training of research staff to update, edit, and add content.
• Meet regularly to revisit deliverables and timelines.
• Anticipate supplier reductions and a cut off of support.
4. Pretests
• Build in formal pretests and ensure time for amendments are contracted with the supplier.
• Consider a pilot test with representatives from each end-user group ahead of launching.
5. Building in evaluation
• Self-educate round customizing Google™ Analytics and YouTube™ Analytics
• Assess what level of expertise the supplier has with regard to evaluating websites.
• Analyze, report, and compare across time as a means to making adjustments to the website.

about how those who attended PCSGs experienced them and what were the key factors in sustaining their existence over time. This case study is not presented as a model case study, but rather as an addition to the nascent science of e-KT in psychosocial oncology and beyond. Extant models of KT (Graham et al., 2007; Grol & Grimshaw, 2003) have suggested the need to involve users from the outset of the research process highlighting the power of networks to facilitate changes in the translation of knowledge to practice; yet surprisingly little attention has been given to the potential of Web 2.0 technologies in optimizing KT in academic research (Di Noia, Schwinn, Dastur, & Schinke, 2003). Our experiences with e-KT suggests that, in common with broader KT models, researchers need to adopt a systems thinking approach (Leischow et al., 2008) to ensure that internet sites are both efficiently marketed and linked to a community of referral networks of care to reach patients and health care providers in need of information. e-KT offers the potential to visibly involve knowledge users from the outset of the research process by, for example, gaining consent from research participants to become the presenters and mediators of the research to a broader public on-line. In the specific context of PCSGs, Web 2.0 allowed us to present excerpts of users'

deliberations about the benefits and drawbacks of attending PCSGs and garnered a dialogue about the pros, cons, and challenges for a psychosocial oncology intervention that has prevailed for more than 20 years. In addition, the use of online forums offers the possibility for the knowledge exchange to continue through practice communities well beyond the end of the research study. Overall, our findings confirm that e-KT can be an innovative approach to psychosocial oncology research in extending the influence and impact of research findings (Chou, Prestin, Lyons, & Wen, 2013).

Appendix A

Table A.1. Visitors by Geographical Locale.

Country/territory	Visits	Pages/ visit	Average visit duration	% New visits	Bounce rate
	2,286	2.33	00:02:51	66.67%	56.17%
1. Canada	1,776	2.37	00:03:01	62.39%	56.19%
2. United States	217	2.05	00:01:50	82.95%	58.53%
3. Australia	126	2.92	00:03:42	73.02%	43.65%
4. United Kingdom	68	2.13	00:02:27	75.00%	48.53%
5. Germany	25	1.00	00:00:00	100.00%	100.00%
6. Country not set	13	2.31	00:01:23	84.62%	61.54%
7. India	6	1.33	00:01:11	100.00%	66.67%
8. Israel	5	1.40	00:01:37	100.00%	80.00%
9. Brazil	4	1.25	00:00:46	50.00%	50.00%
10. Spain	3	1.00	00:00:00	100.00%	100.00%

Table A.2. YouTube Playback Location.

Playback location	Views	Estimated minutes watched	Average view duration
YouTube watch page	733 (70.7%)	860 (68.4%)	1:10
Embedded player on other websites	157 (15.2%)	155 (12.3%)	0:59
Mobile devices	138 (13.3%)	236 (18.8%)	1:42
YouTube channel page	7 (0.7%)	5 (0.4%)	0:40
YouTube other	1 (0.1%)	1 (0.1%)	1:11

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Notes

1. Website usability refers to the quality of a website with regard to its ease of use. Does it provide the features you need? How easy, intuitive, and pleasant are these features to find and use? People tend to have very little patience for complicated and unpleasant web browsing experiences, so this is a crucial measure of website quality and a strong determinant of its success.
2. For example: <http://www.hallaminternet.com/2012/how-to-google-analytics-10-tips> and <https://support.google.com/analytics/?hl=en>.
3. For example: <http://analytics.blogspot.ca>.

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